

## REMARKS

This amendment is responsive to the Office Action mailed September 11, 2003 setting a three month shortened statutory period for response expiring on December 11, 2003.

The drawings are objected to for failure to comply with 37 CFR 1.83(a) because the limitations of claims 10 and 11 are not specifically shown in the drawings. The drawings are further objected to because they include a duplicate reference number ("124") as well as a reference number ("126") that is not mentioned in the description (37 CFR 1.84(p)).

The objections under 37 CFR 1.83(a) are rendered moot by the cancellation of claims 10 and 11. The cancellation of these claims was not due to a prior art rejection and should not be interpreted as limiting the scope of the remaining claims. Furthermore, the objections under 37 CFR 1.84(p) are addressed by the amendment to FIG. 1 to remove the incorrect reference numbers 124 and 126.

The objections to the Specification noted at pp. 2-3 of the Office Action are addressed by the amendments to claims 18, 19, 23 and 24 to correct the preambles of those claims. Those amendments address matters of form only and do not limit the scope of the claims. Similarly, claim 8 has been amended to correct a typographical error.

Claims 1-24 were originally presented in this application. Claims 1-3 and 9 were rejected under 35 U.S.C. § 102(e), as being anticipated by Bement et al. (US 2002/0101686). Claims 12, 17, 20 and 22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Oguchi et al. (JP 01-179286). Claims 13 and 24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Oguchi et al. as applied to claims 12 and 20, and further in view of Takahashi et al. (JP 60-055570). Claims 10-11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bement et al. Claims 4-8, 14-16, 18, 19, 21 and 23 were objected to as being dependent up on a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### Rejections over Bement et al. are Improper

Initially, it is noted that the Bement et al. publication is assigned to the assignee of the present application and includes three common inventors. Furthermore, the Bement et al. publication has a § 102(e) date (October 3, 2001) that is eight months later than the provisional filing date of the present application (February 19, 2001). Because priority to the 2/19/2001 provisional filing date was properly claimed in this case, the Bement et al. publication does not

constitute prior art and the citation of the Bement et al. publication against the claims in the Office Action is improper.

Additionally, it is noted that the October 3, 2001 filing date of the Bement et al. publication is only one month prior to the utility filing date of the present application, and thus a Rule 131 Affidavit from the common inventors can be prepared if necessary to remove the Bement et al. publication as a prior art reference.

Thus, for these reasons, Applicant respectfully traverses the § 102 rejections of claims 1-3 and 9. Furthermore, the § 103 rejections of claims 10 and 11 are also improper due to the fact that the Bement et al. publication is not prior art, as well as the fact that the Bement et al. publication is commonly owned by the assignee of the present application (35 U.S.C. § 103(c)). However, the § 103 rejections of claims 10 and 11 are rendered moot by the cancellation of those claims as described above.

§ 103 Rejections over Oguchi et al. (JP 01-179286)

The Office Action relies on Oguchi et al. for the § 103 rejections of independent claims 12 and 20 (as well as dependent claims 17 and 22). However, each of these claims recites a disc drive (or “apparatus”) having a shape memory alloy (or “means” in claim 20) attached to the suspension for moving the slider between a contracted state away from the disc when temperature within the head disc assembly increases, and a relaxed state near the disc when temperature within the head disc assembly decreases, in order to provide passive control of the flying height of a slider over the disc. This limitation of independent claims 12 and 20 (as well as independent claim 1 which was rejected based on the Bement et al. publication) is **not shown or described** in either the drawings or the English language Abstract of Oguchi et al.

Rather, Oguchi et al. describes a method of suppressing “off-track” errors that are generated by temperature changes. Thus, as shown in FIG. 3 of Oguchi et al., the Japanese patent appears to relate to movement of the head “2” in a lateral direction (as denoted by the arrows X and X’ in FIG. 3). Specifically, the final sentence of the English language Abstract (the “Constitution”) notes that the function of the shape memory alloy “spacers” is to correct deviations in the magnetic disc rotation system so that “off-track” deviations can be suppressed.

As is well-known in the art, “off-track” deviations relate to the **lateral** position of the head along the radius of the disc as opposed to the vertical distance of the head relative to the disc surface (i.e., the “fly height”). The present invention relates to the attachment of a shape

memory alloy to a disc drive suspension to passively alter the **vertical** position or “fly height” of the slider over the disc as the temperature changes within the disc drive. Specifically, the Background and the Detailed Description of the present Application describe the use of shape memory alloys to counteract “fly height” variances caused by phenomena such as thermal pole tip recession or “TPTR” (see, e.g., pp. 2 and 5-7 of the Application). Such fly height variances are related to temperature changes within the disc drive, and thus the present claims recite apparatus for passively altering the fly height of the slider with changes in the disc drive temperature.

As noted above, the English language Abstract of Oguchi et al. does not describe or suggest the use of shape memory alloys to alter the “fly height” of a head or slider over a disc. Therefore, Oguchi et al. fails to establish a *prima facie* case of obviousness. MPEP §§ 706.02(j) and 2142-43. Specifically, a *prima facie* case of obviousness first and foremost requires that the cited reference must teach or suggest each of the elements of the claimed invention. *Id.* In this case, the citation of Oguchi et al. fails to disclose or suggest the claimed invention for passively controlling the fly height of a head. Indeed, Oguchi et al. actually **teaches away** from the present invention by using different shape metal alloy spacers 5 and 5’ (where the thickness of the spacer 5’ is increased and the thickness of spacer 5 is decreased) to move the opposing heads 2 in opposite lateral directions as shown in FIG. 3 (and as described in lines 2-8 of the “Constitution”). Thus, Oguchi et al. teaches the use of different shape memory alloys on opposing disc drive suspensions, and such teaching would be directly at odds with the present invention since the application of different alloys in the present invention would tend to increase the fly height of one slider and decrease the fly height of an opposing slider with a rise in disc drive temperature. Therefore, no *prima facie* case of obviousness exists and reconsideration of the § 103(a) rejections of independent claims 12 and 20 (as well as claim 1 to the extent that Oguchi et al. may be applied to claim 1 as well) is respectfully requested.

Furthermore, reconsideration of the § 103 rejections of dependent claims 17 and 22 over Oguchi et al., as well as the § 103 rejections of dependent claims 13 and 24 over Oguchi et al. in view of Takahashi et al., is respectfully requested in light of the above arguments and remarks.

New Claims

New dependent claims 25-28 have been added to further define the invention by reciting a varying number of the shape memory alloy segments that are attached to the suspension. These claims do not present new matter and in fact are similar to other dependent claims that have been deemed allowable.

Claims 1-9 and 12-28 remain pending in the application and are believed to be allowable. This amendment is believed to be responsive to all points in the Office Action. Accordingly, prompt allowance is believed to be in order. Should the Examiner have any remaining concerns or questions, he is urged to contact the undersigned attorney by telephone at the number below to expeditiously resolve such concerns.

Respectfully submitted,

Seagate Technology LLC  
(Assignee of the entire interest)

December 10, 2003

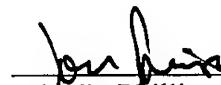
  
John B. Phillips, No. 37,206  
Merchant & Gould P.C.  
P.O. Box 2903  
Minneapolis, MN 55402-0903  
(303) 357-1644  
(303) 357-1641 (fax)





FIG. 1

